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ART. 151.—REVIEW.—*Address delivered before the American Institute of the city of New-York, at their late Fair, held at Masonic Hall, October*, 1829. By JAMES LYNCH, Esq.

The object of the American Institute, is, to encourage and promote industry in the four branches of national prosperity and wealth, agriculture, commerce, manufactures, and the arts. The plan designed to accomplish this great and worthy object, is, to enlighten the public mind, to foster genius and skill, and to develope the resources of our nation. In the accomplishment of the first, many able and important reports have been drawn up by the members of the Institute and sent abroad among the public. In the promotion of the second, the productions of the skilful and enterprising have, from time to time, received favorable notice from committees, and particularly, in the opportunities afforded for exhibition in the annual fairs of the Institute; in respect to the last, a wide and interesting field is open for the further investigation of the members.

Taking mankind, and the state and policy of nations, as they really are, the Institute deem the protection of *Government* as absolutely *necessary* to promote the interest of the four great branches of national prosperity. This, we believe, is generally conceded, although, as Mr. Lynch observes in some part of his address, the happiness of the whole world would be greatly promoted without restrictions on trade. Next to wars, we think that injudicious legislation at home, and counteracting enactments on the intercourse between nations are the greatest sources of national distress. When, how far, and what steps should be taken by government, and what will be the consequences of these steps, are the most difficult subjects coming within the ken of human investigation and foresight. In recommending, therefore, measures to government, the reputation and permanent influence of the Institute will depend much on the extended views on political economy, care in the investigation, and caution in drawing conclusions from premises ever liable to fluctuations, that may characterise their reports.

In his address, Gen. Lynch may be considered as having divided his subject into three parts;—first, that the circumstances in which our country was placed, required no protection for agriculture; second that the flourishing state of our commerce has been sustained, in a great measure, by protection; and third, that the interest of agriculture and commerce, or rather of the country at large, now require protection for manufactures. On this subject, we recommend to our readers the following liberal extracts:

"The occasion invites, that this branch of industry should be the subject of my remarks. I therefore propose to point out some of the advantages resulting from the extension of Manufactures; the necessity that they should be encouraged; the kind of encouragement which is proper; and to consider the objections which have been urged against the whole system. A brief history of the application of National Industry in the United States, may conduce to a correct view of the subject. In the infancy of this Republic, just emerging from a state of colonial dependence on Great Britain, without capital, with a debt incurred by the expences of the Revolutionary War, and with an immense space of fertile and unimproved land, inviting attention, and offering a speedy return, and at least, the necessaries of life, as the fruit of the labor of the husbandman, it was natural that the industry of the nation should be extensively engaged in the pursuits of Agriculture. Foreign markets were open to receive all the surplus products, and it was the interests of this country to avail itself of a supply of manufactures from abroad for its own use in return. In the course of a few years, the general war in Europe offered to our citizens commercial advantages, of which, by their enterprise, they soon availed themselves; and an extensive portion of the National Industry was applied to commerce, with its necessary appendages, by which means we not only continued to find a market abroad, for the surplus of our agricultural products, but we became extensively engaged in foreign commerce, and our nation advanced, in wealth and prosperity, with rapid strides. We practiced upon the principle of free trade, because trade was *free and open* to us; the United States had been looked upon by the powers of Europe, as so inconsiderable in the scale of nations, that they permitted us to obtain temporary advantages in our intercourse with them;

but the enterprise of our merchants, and the increasing importance of our commerce, soon attracted the attention, and perhaps excited the envy, of the great, and then, contending powers; the laws of nations, under which, while our rights on the ocean had been respected, we had flourished, were grossly violated; by force of decrees, orders in council, and other measures of the belligerents, attempted to be justified as directed against their enemies; our commerce was plundered, and finally we were excluded from the markets which had been open to us, for our Agricultural products, and from all the benefits of foreign commerce, unless we submitted to the payment of tribute, or other terms equally degrading to our character as an independent nation. Under the influence of feelings, natural to the citizens of a nation, which cherished the remembrance of what it had done and suffered for independence, we resented those measures, first, by acts of embargo and non-intercourse, in the vain hope that a returning sense of justice would induce a change of the system which had been pursued; but when the measure of aggression was full, by the imprisonment of our seamen, we declared war against Great Britain: a war which, if it answered no other purpose, served to elevate our national character abroad, and to exhibit proofs of valour and skill in our Navy and Army which astonished the world, and will cause our rights to be respected in future. From that period, and during the years of peace which have succeeded, the nations of Europe have been gradually resuming the commercial advantages, of which, by favorable circumstances, we had possessed ourselves; which is the *true* and only cause that has impeded the growth of our foreign commerce. It was then that the great body of our citizens became convinced, that in order to be independent, a portion of the industry of the nation must be applied to the *manufactures of the comforts of life;* an opinion which had been advanced by Washington, Hamilton, Madison, and other great men, as early as the time of the adoption of the constitution supported by arguments, the truth and solidity of which experience has fully demonstrated. * * * * * * * *

"Let us inquire what has been the effect upon commerce, of the extension of manufactures, and of the laws of Congress passed for their encouragement. The year 1824, may fairly be taken as the period at which the nation adopted the policy of the *American System;* the decision was then made, that we would no longer be dependent on foreign nations, and the period of four years preceding, and four years succeeding that date, may be considered as shewing the effects of *that* policy, because the state of our foreign relations during that time, did not undergo any other material change. The imports, during the last four years, exceeded those of the succeeding four years, by about forty-seven millions of dollars; and the export of the last four years, exceeded those of the four years preceding, about fifty millions of dollars; showing an actual increase of commerce greater than our increase of population.

"The tonnage of registered American vessels, in 1820, amounted to 620,000 tons; and on the first of January, 1828, it amounted to 900,000 tons, an increase of nearly fifty per cent.; and the increase in the last year of that period, was 120,000 tons. The enrolled licenced tonnage has increased more than twenty per cent. since 1820, and the total tonnage of the United States was twenty per cent. more in the year ending first of January, 1828, than it was in any year previous to 1820. Thus, it appears, that while our agricultural interests have been depressed, and the exports of its products diminished, commerce and navigation have been gradually extending. The new direction given to a portion of our industry, has already supplied other objects of exportation, and we now export about six millions of dollars of manufactures, a larger amount than the whole of the grain, flour and meal, exported. That we must find some new source of exportation, or that we must supply our own wants to a greater extent, and thus diminish the amount of our importations, will be evident, when it is considered, that, for the last eight years, our imports have exceeded our exports about thirty millions of dollars. Is not this fact, alone, sufficient to account for the embarrassment and general distress of the country? Would the merchant desire to increase this distress? certainly not! He knows that commerce is a mere exchange of commodities, either direct or indirect; that in order to effect its increase, there must be some addition to the stock of those commodities, either in quantity or in value; and he knows, that if, with all the ingenuity of merchants to obtain a market for those we have, there is still a continual annual balance against us: that it must have been liquidated by the transmission of public funds, stocks of various kinds, and other evidences of debt, either against the nation, or against individuals; that it must create a drain of the specie and otther disposable funds of the nation; and that, as experience has shown, that this evil does not correct itself, it is the part of a wise and prudent government to adopt measures which will have a tendency to do it. Let us profit by the example of Great Britain in this respect, which, by force of a system of measures, regulating and controlling the operations of i ts subjects'

and by means of restrictions and prohibitions, has given such a direction to the industry of the nation, and so regulated its intercourse with foreign countries, as to gain almost invariably an advantage over them. By her system of policy, her exports exceed her imports nearly thirty per cent. while our imports for consumption, exceed the amount of our exports of articles of domestic growth and product, about eight per cent.; and it is a remarkable fact, that the principal part of that excess, is caused by our imports from Great Britain and her dependencies, which actually exceed our exports to them about three millions of dollars annually. The extension of our manufactures will principally affect the amount of our importations from Great Britain, which are chiefly for our own consumption. Of 33,000,000 of dollars, imported from Great Britain and her dependencies, less than three millions are re-exported; while, of fifty millions imported from other countries, nearly one half is re-exported; and, thus it appears, that in our intercourse with Great Britain, she leaves nothing for our foreign commerce to profit of, whilst our intercourse with other countries affords employment to our ships in some trade which is deemed profitable. But, admitting that a diminution in the amount of manufactures imported, should take from the shipping merchant his freight and profits thereon, it has been demonstrated that the freight of the raw materials, necessary to be used in manufactures, and which must continue to be imported, will give employment to a much greater number of tons of shipping. As to the internal trade, the amount and profits thereof must and will be regulated by the state of prosperity which the nation enjoys. Its legitimate object is the proper application of the surplus of agriculture and industry, and the American will be substituted for the foreign supply.

"Every city which connects manufactures with commerce, and unites thereto an intimate dependence on the agriculture of a fertile country, will flourish, provided it is protected by a wise government against the regulations of foreign countries, which would interfere with its prosperity. On the other hand, those cities, which have depended on foreign commerce alone, have had their rise and fall; their existence depends on those, who, instead of being anxious for, are jealous of, their prosperity. And the merchant, whose property was in his ships, having nothing to attach him to the soil when he finds his occupation gone, abandons the spot, without regret, to settle in some more prosperous land.

"It is objected by the planter of cotton, that if we do not take the manufactures of Great Britain, she will not take our cotton. Great Britain would not take our cotton any more than she takes our flour, grain, and other articles of subsistence, unless she found it to be her interest, and unless we furnished an article that she cannot get on better terms elsewhere. The subsistence she furnishes the workmen employed in manufactures, which we purchase, costs vastly more than we could supply it for, but because she can produce it herself, she will not receive it from us; she advises us to adopt the principles of free trade, but is cautious not to adopt them herself. But, even if such should be the consequence, the interest engaged in planting cotton, does not amount to one fifth of the population of the United States; without any sectional feelings, I may say, therefore, they ought not to have their interest alone consulted, at the expense of the vital interest of a large majority of the nation; merchants, however, no longer carry on a mere trade of barter with *any* country; they buy, where they can buy on the best terms, and sell where they can get the best price; if trade were open throughout the whole world, this would probably be the best system; but when some nations adopt measures for the benefit and protection of their own industry, other nations must, in self defence, countervail those regulations, or they will inevitably carry on their intercourse to a disadvantage."

The above extracts, from Gen. Lynch's address, are sufficient to give our readers a favorable idea of the manner in which the subject has been handled.

A society, having for objects those of the American Institute, and embracing so many men of talent, learning, influence, and practical skill, cannot fail of being useful, in an eminent degree, to this city and the country at large, provided these objects are strictly kept in view. No political party bearing can be given to the exertions of the Institute, without limiting its influence and impairing its dignity; and we therefore doubt the propriety of recommending, on such occasion, and at such a time, even as moderately and prudently as has Gen. Lynch, the choice of representatives. Let the Institute acquire a reputation, at all times, for a faithful and impartial exhibition of truth, that the people, as they turn in disgust from the mist, distortion, and darkness, with which party strife envelopes subjects of public interest, may look to it as a source of never failing and clear light.

ART. 152.—*Hogs fattened on Sweet Apples.*—[For the New-York Farmer.]

Not having observed any notice of this method of fattening hogs, I would call the attention of your agricultural customers to the following fact.

In July, 1824, Mr. William Canfield, of Schodack, Rensselaer county, showed Dr. L. C. B. and myself an orchard, wholly grafted with sweet apples, which he had prepared for a hog pasture, and had used it as such for several years. He kept his hogs in this orchard most of the summer season, where the grass and a little whey, were sufficient to promote their growth. About the time when hogs always manifest a disrelish for grass, the worm-eaten apples began to fall, sufficiently matured to become eatable. As they advanced in size and ripeness, they became more and more agreeable and more nutricious, until the hogs began to fatten rapidly with no other feed. The trees were therefore shaken, or beaten with light poles, so as to throw down a due quantity of the most ripened fruit. This process was continued until the whole herd had become sufficiently fattened. Then Indian corn was given in about half the common quantity, for about one week, and full feeding of it another week. This brought them to the butchering, and the pork was not inferior to that which is fattened in a more expensive manner. One full-grown, thrifty tree, (or two inferior ones,) was found sufficient for a hog weighing 250 lbs.

I have not been informed of Mr. Canfield's further progress in this experiment. The above, I extract from notes made at the time I was taking an agricultural survey of the county. A. E.

ART. 153. *Plants feed on Air.* By A. Eaton, of Troy. [For the New-York Farmer.]

This heading seems rather to be the poetry of agriculture than common sense. It is, however, a maxim deduced from sound philosophy. Though this is not new, perhaps your readers may be amused with about three minutes reading, by the following statement of "matter of fact."

Professor Fay Edgerton, of the Rensselaer branch of Utica High-school, while he was adjunct professor of the Rensselaer school in Troy, made the following experiment.

He put about a quart of pounded glass which had been washed clean in pure water into a clean glass vessel. He planted in this, wheat, oats, and flax-seed. The vessel was elevated three feet from the ground, in a place remote from trees, buildings, and all other bodies, which would furnish any thing, as drip into it. Consequently, nothing but rain and atmospheric air could come in contact with it. He watered it frequently with water that was perfectly pure; and not a particle of any thing but pure water, rain, and the atmosphere, with its embraced gases, could possibly come in contact with it. The growth was rapid for a while. The wheat and oats grew to the height of 6 or 7 inches. I cut off a quantity of those plants, and took the usual course for testing the contents. Mr. Edgerton did the same. Its constituents were the same, or nearly so, as of the same plants when growing from the earth. We did not take the trouble to ascertain the proportions, however.

It was well asked, by an illiterate farmer in Schoharie, of this state, "Why does not my ten acre field sink down, as I and my ancestors have taken more than one hundred crops of wheat from it without ever adding a particle of manure?" The answer should be—it feeds on the carbonic acid gas, ammonia, &c. &c. which floats in the atmosphere. Yours, &c.

Amos Eaton.

Troy, Nov. 17, 1829.

ART. 154. Natural History.—Class II.—*Birds.*—By the Editor.—[Continued from page 241.]

Whether with reason or with instinct blest,
Know, all enjoy that power which suits them best;
To bliss alike by that direction tend,
And find the means proportioned to their end.

The next class of animated nature is that of the winged race. Designed to move in the air, rather than on the land, the structure of their organs has a corresponding adaptation. The breast bone is large and strong, supporting the powerful actions of the wings. In front is a projection, like a keel of a vessel, to which are attached muscles that put the wings in motion. Their neck is long, capable of various positions, and of quick motions. Their tail serves as a helm. The feathers, quills, and even some of the bones, are either filled with air, and otherwise most admirably contrived, to raise and support the body above the earth.

The heart is like that of the mammalia, having four cavities, two auricles and ventricles; but their lungs are differently arranged, and perforated with openings to receive the air.

The digestive organs of birds are generally different from those of the mammalia. Having no teeth, the food is first deposited in the crop, where it becomes moist and soft; it is then carried into a membranous sack, the *ventriculus succenturiatus*, where it receives further maceration; it is afterwards carried into the gizzard, which is composed of strong muscles, and coated with a rough cartilaginous membrane, by which it is finely triturated and ground.

The sight of the feathered race enables them to see objects distincly and at a great distance. This is particularly the case with birds of prey. Birds have a third eyelid, semi-transparent, situated in the inner angle of the eye, from whence it is drawn over the globe, serving to protect it from external injury, and from the intense light of the sun.

Their organs of hearing, smelling and feeling, are not pre-eminent, except that birds which feed upon carrion are enabled to trace out their food at a great distance by the smell.

The class of birds is divided into six orders, according to their structure and habits.

1. *Ancipitres*, or birds of prey, have strong hooked beaks, and powerful talons, adapted to seize and destroy other birds, reptiles, and small quadrupeds. This order is divided into the diurnal and nocturnal. Eagles, vultures, falcons, hawks, buzzards and kites, are included in the former.

The different species of owl include the nocturnal. They are more deformed and ugly than the diurnal. Their eyes do not admit the full light of day without pain, and they are, it is said, immoveable in their sockets.

2. *Passeres*, or sparrows, include a great variety of birds, differing much in their plumage, food, and habits; many of them are distinguished for the sweetness and melody of their notes. To this order belong robins, blackbirds, nightingales, birds of paradise, humming-birds, swallows, &c. This order principally pass, or migrate, in winter, to a warmer climate.

3. *Scansores*, or climbers. The claws of the birds of this order, enable them to grasp limbs and the bark of trees more firmly than those of the other orders, the external toe on each side being turned backwards. All birds, however, belonging to this order do not climb, while some belonging to other orders, and yet without this position of the toe, do climb. Those of this order generally build their nests in holes of trees. Among these are the woodpecker, the cuckoo, the toucan, the parrot, &c.

4. *Gallinaceæ*, or gallinaceous birds—Most kinds of domestic birds, the turkey, peacock, common fowls, pheasant, patridge, quail, pigeon, &c.

5. *Grallæ*, or waders, or shore birds, have long and naked legs, with corresponding bills and necks, enabling them to wade without wetting their feathers, and to obtain food at the bottom of water and in mud and sand. Ostrich, cussowary, flamingo, heron, spoonbill, plover, woodcock, magpie, &c. are included in this order.

6. *Anseres*, or web-footed birds. A web or membrane connects their toes, and their feathers are thick and oily, admirably adapting them to swim and to remain in the water a great length of time. Some of this order are capable of lofty and long continued flight, while others can scarcely raise themselves from the water. The pelican, petrel, cormorant, gull, albatross, wild goose and duck; also, sea-diver, penguin, and domestic goose, belong to the Anseres.

(*To be Continued.*)

ART. 155. *On the Introduction of the Scuppernong Grape into South Carolina and Georgia; with a description of the Fruit, and the mode of culture pursued in North Carolina*, By W. Blackledge, Esq.

To the Editor of the Southern Agriculturist.

Dear Sir,—In reading over the *Agriculturist*, I discover Mr. Spalding has given it as his opinion, that the sea-board of South Carolina and Georgia, can never be a wine country. This may be true as to the foreign vines; but certainly the sea-board of those States must differ vastly from that of North Carolina, if they do not abonnd in the Fox, Muscadine and Bullet Grape, as well as the common bunch, from which excellent wine can be made, and I have no hesitation in saying that the Scuppernong, the prince of native Grapes, both for wine and the table, would thrive as well in either of those States, upon the Wire-grass sandy ridges, and other piney lands, as it does on similar lands, in North Carolina, where this Grape was first discovered, if it were once introduced and cultivated in the manner it is with us. This Grape is rather larger than the Fox Grape, and bears in clusters, much like it; when ripe, it is of a yellowish white, and perfumes the atmosphere for a considerable distance around, by its delightful scent. I have now been acquainted with it for forty years, in the neighborhood of Newbern, North-Carolina, where it went by the name of the Hickman Grape, after the man who introduced it there from Scuppernong River (a small river emptying into Albemarle Sound,) where it was first discovered. The profit made by this man by carrying these grapes to market, soon set others to raising them; and at this time almost every small plantation in our piney woods, near our towns, has one, if not more of this vine, from the sale of the fruit of which they supply themselves with Corn and other necessities. The more wealthy farmers make wine of it esteemed by our connoisseurs as very superior to nine-tenths of the wines imported. The man-

ner in which it is cultivated, generally, is as follows: The person planting it, selects that spot near his house, where he wishes to erect a pleasant shade. In the centre of this place he sets a chinquepin fork, or light wood post, to rise about eight or nine feet above the ground; near this stake he plants his vine-roots, if he can get them; if not, cuttings, which require much care to make them live. As soon as the vine reaches the top of the stake, which will very often be the first year, he puts down other forks around the one to which the vine is attached, and lays good light wood, and heart of pine rails, from one fork to the other for the vine to run on. All the additional care he takes of it, is to enlarge his arbor as the vine extends, and very few ever pretend to trim. In this way there are single vines which have produced grapes enough to make two barrels of wine, besides supplying the family with an abundance of the fruit to eat. There are instances of a single arbor of this vine, affording a shade almost impervious to the rays of the sun, forty feet diameter each way. The ground where it stands upon being near the house, will be necessarily rich, whatever the original quality of the land may have been, and it is immaterial whether the land on which they are planted be of the light wire-grass, sandy, or stiff piney woods. They thrive on either within fifty or sixty miles of the seaboard, but as you approach the gravelly and stony lands, they are much more difficult to propagate, and when rooted do not appear to thrive as well. If Mr. Herbemont, and Mr. Couper, of Georgia, who appear to be devoting their attention to the culture of the vine, have not got this grape among their collections, I think they could not do better than procure it as soon as possible.* Should I live, and a vessel offers between Washington and Charleston, I will use my best exertions to forward to you the ensuing winter, a few of the roots and some of the cuttings. I would not be understood as giving it as my opinion that this Grape would not be improved by pruning, in the lands of either of these gentlemen; it would soon be discovered whether it would bear it or not. My principle object in this communication is to bring this vine to the notice of those two intelligent vignerons. Their judicious experiments would soon develope the superior excellencies of the wine to be made from it. Your's, respectfully,

WM. BLACKLEDGE.

Newbern, Oct. 1, 1828.

* Cuttings can be had from either Washington, Newbern, Plymouth, or Eaton, North-Carolina.—*Ed. of So. Ag.*

NOTE.—We were informed by a gentlemen we met in Salem, North-Carolina, that three barrels of wine had been obtained from a single vine, in one season.—*Ed. of So. Ag.*

MR. EDITOR.—Your notice of Mr. Le Ray's recent address called to mind the following beautiful lines, contained in an address delivered by the same gentleman before the Jefferson County Agricultural Society, in 1824. By giving an insertion, you will oblige a FARMER.

New-York, Nov. 1829.

ART. 156.—*Agricultural Societies promote the Industry and Morals of the People.*

Methinks I see a farmer, or rather a man living in the woods, and getting his scanty subsistence by scratching his fertile lands, having left at home, his wife anxious after the state in which he shall return home.—Children wasting their physical and moral powers in slothful idleness. His wandering steps have led him to this place on the day when we have assembled to celebrate our annual festival. His doubtful looks view a procession formed by men, whom he supposes by their manners and by his little acquaintance with them, to be among the most respectable in the county. He follows and obtrudes himself in a place where he never entered before—church. He finds, upon inquiry, that here the rich, the poor, the farmer, the mechanic, and the professional man are mixed without distinction; all political parties have subsided, and all angry feelings are stifled. The solemn appearance of the audience, the impressive prayer, the sweet music, have produced impressions heretofore unknown. He listens with patience, and even with attention, to an address, where he finds that sobriety and industry are indispensable to the acquirements of wealth, to which he is not insensible, and of reputation, which as yet concerns him little. The distributions of premiums is a more tangible and substantial call to his feelings, and begins to rouse some dormant idea of praise-worthy ambition. The procession resumes, and a numerous company set down to a dinner, where, although the greatest hilarity prevails, he finds no disorder nor tumult: and to his inexpressible wonder, the guests separate in sobriety and perfect good humor. He himself forgets to get drunk, and walks straight to his house. His astonished and enchanted family are disposed to listen with attention and pleasure to the recital of scenes which have produced the unprecedented effect. Their emotions excite and stimulate his own. His wife must try her hand at some article of manufacture, and his boys declare that if they had a chance, they could plough as well as any body. The charms of novelty keep up this first excitement. This family turn a new leaf. A few days work have sufficed to show that the children may be supported at school; they are neatly clad in homespun clothes on Sunday, and are no more strangers to the public meetings of worship. The father finds his health and his moral

situation improved. Emulation has begun to operate upon him, and he is determined that the field of his neighbor shall not much longer be the better of the two. In short, health and happiness have returned under their roof. The rough clearing is getting the aspect of a farm, and if it continues in this way a few years, it may one day get the premium for the best farm in his town, and perhaps in the county.

ART. 157. *New Plants from the Western Coast of North America.* By MICHAEL FLOY. [To the Editor of the New-York Farmer and Horticultural Repository.]

SIR. In a late number of the Botanical Register, I observe that among the many new and rare plants, collected by Mr. Douglass, the London Horticultural Missionary to the Columbia River, a new genus which has been called *Hosackia* in honor of Doctor David Hosack, of this city, the President and Patron of the New-York Horticultural Society.

As this mark of respect paid to the Dr. by Mr. Douglass is gratifying to our feelings as Americans, and highly complimentary to him, I extract the following from the Botanical Register, No. 6, of Volume 2d. London, printed August 1st, 1829. Page 1257.

"HOSACKIA *bicolar*, two colored Hosackia; Diadelphia Decandria; nat. ord. *Leguminos* Loteæ, "a pretty perennial plant found by Mr. Douglass, in overflowed meadows, between Fort Vancouver and the grand rapids of the Columbia. It is quite hardy, and easily increased by seeds."

"For the characters of the genus, and for the following valuable remarks, we are indebted to our friend, Mr. George Bentham, who has studied that portion of Leguminosæ, to which Hosackia belongs, with much care:

"This plant has much of the habit, as well as the inflorescence and fruit, of a Lotus, to which genus Dr. Hooker has referred it in the *Botanical Magazine;* but, independently of the characters which may be drawn from the position of the *alæ*, and the *capitate* stigma, the pinnate, not ternate, leaves, and the absence of the large foliaceous stipulæ of Lotus—characters which appear to be of importance among most of the Leguminosæ—perhaps alone suffice for the adoption of the genus Hosackia, proposed by Mr. Douglass.

"To this genus, should be referred the *Lotus sericeus* of Pursh, which Nuttall, on account of the position of the *Alæ*, transferred to Trigonella, under the name of Trigonella Americana, but which differs from the other species of that genus by its fruit being cylindrical, and not reticulate, the size of the carina, and its general habit. "The leaves in this species are generally trifoliolate; but then the two lower leaflets are seldom opposite, as in the truly trifoliate genera, and in the leaves of the more robust specimens, a fourth and even a fifth leaflet may often be observed; the stipules are so small as scarcely to be visible.

"Specimens of this species were also brought by Mr. Douglass from the North-west coast of America, as well as of two other species, which may be referred to the same genus. The species described, are, 1 *Hosackia becolar.*

2 *Pubescens.*

3 *Purshiana.*— { Lotus Sericeus, Pursh, flor. 2 p. 489. Trigonella Americana, Nutt. gen. 2. p. 120.

4 *Parviflora.*

Also, another new genus, from the same country, and introduced by the same collector, (Mr. D. Douglass,) appears in the June number of the Botanical Register, No. 4, interesting to the state of New-York in particular. The CLINTONIA, in honor of the late Gov. Clinton. CLINTONIA *elegans*, nat. order, *Lobeliaceæ*, "A procumbent hardy annual, which," Mr. Douglas informs us, is very common in low, grassy, overflowed grounds, on the plains of the Colombia, near Wallawallah river, and near the head springs of the Multnomak; flowering, from June till August. "With us, it forms one of the most beautiful annuals with which we are acquainted. Notwithstanding the want of spreading foliage to give its flowers effect, the latter are of so brilliant a color, that the plants, when grown in broad patches, resemble a carpet of silver and blue."

"CLINTONIA, Governor De Witt Clinton, an amiable excellent man, and a distinguished patron of American investigation."

[*London Gard. Mag. Nov.* 21, *p.* 445.

ART. 158. *Extract from a Report on Farms made at a Cattle Show and Fair, in New-Hampshire.*

At the late Cattle Show and Fair in this county, Dr. JOSEPH M. HARPER, in behalf of the Committee on Farms, made the following report:

That on the twenty-seventh day of July last, agreeably to public notice given, five of your committee met at the Shaker Village in Canterbury, viz. Joshua Lane, Jeremiah H. Wilkins, Jeremiah Pecker, Simeon B. Little, and J. M. Harper, and commenced their pleasant labours with the examination of the farm owned by Mr. John Kimball, of Canterbury.

This farm contains one hundred and seventy-five acres of land, which, in a state of nature, was broken,

rocky, and as unpromising as almost any land in the town, and deemed incapable of affording a reasonable profit to the cultivator. It has been under the cultivation of its present owner and occupant for more than forty years. Most of the labor has been performed with his own hands, assisted by his sons, who have not been, like too many young men of the present day, brought up in idleness, with bosoms filled with ruffles, a trouble to their parents, and a pest to society; but they were early taught, by precept and example, that to be healthy, wise and wealthy, industry and good economy in time, as well as money, were absolutely necessary; that manual labour was no disgrace to *kings* or *peasants;* that all must subsist by the sweat of other's faces, if not by their own. Thus, by the exertions of himself and sons, together with the good economy of his rib within doors, Mr. Kimball has been enabled with the blessing of Him who will not withold any good thing from the honest and industrious soul, not only to bring up his family well, suitably educated for all the ordinary concerns of life, with a fair prospect of a competency in old age, but he has had the sweet consolation of being able to support his parents in their declining years, one of whom was, for many years before life closed, blind and helpless. He has not only been able to do all this good, but he has succeeded in making his farm one of the most productive and convenient farms in the county. A good stone wall, from three to fifteen feet thick, is almost the only fence to be found about this farm. The wall is thick from necessity, in order to get rid of the stones. Some of it is very high, with flat stones on the top, projecting over into his pasture, from ten to fifteen inches; forming a good barrier against the intrusion of sheep, an object which every farmer knows to be very desirable, as ordinary stone wall is but a poor security against the invasions of this animal.

Mr. Kimbal has about twenty-five acres of mowing, arable and orcharding, being all that his farm can afford by reason of the unevenness of the surface, ledges, fast and loose stones. This has been prepared with great labour; the stones are well cleared off, the surface made smooth, the soil well mixed with manure, and thus made productive. The whole is enclosed with a good stone wall, in two fields. The committee examined his hay in his barns, which they estimated at twenty tons; it was nearly all of a good quality. He has about two acres of corn, two of wheat, and three of potatoes, all of which look promising. His corn, however, was not as well hoed as would comport with good husbandry, or would be for his present or future profit. Mr. Kimball's pasture is rough and extensive. Most of his land was cleared many years ago, and has since come up to bushes. Instead of cutting them down, and clearing the land a second time for a crop of rye, as is the usual practice, he has cut down the unprofitable part, such as white birch, poplar, &c., trimmed up the rest, cleared away the brush and underwood, and kept out the fire, so that he now has a beautiful growth of ash, oak, elm and sugar maple. Of the latter, he has more than two thousand trees of various sizes, from three to twenty inches in diameter; which, with proper care and a little labour, will furnish the occupant for many years to come with more than a supply of that useful and wholesome article, domestic sugar. Notwithstanding the rich supply of young wood and timber, which he has thus saved, he has a sufficient quantity of pasturing for his stock, which consists of about twenty head of horned cattle, two horses, and thirty sheep. It will be proper here to observe, that he has a piece of land at a distance, from which he brings, annually, five or six tons of hay, and also that it affords some pasturing. Mr. K. has no unusual method of cultivating his land, or making manure. He ploughs in season, deep and well, plants well, and in proper time; then takes good care, through the season, of what he has planted or sown. His time is not spent in places of mirth and tippling, but on his farm, as it should be. When storms come, he has a shop in which he labors to profit and advantage; and he receives the blessings of his industry as he passes along the journey of life. By pursuing this course, he has been enabled to accomplish all this, yea more. He has erected a large, commodious house, two stories high, forty-two by thirty-two, with an L, or back part for a common kitchen or dairy room, all well finished and painted; he has also all necessary outbuildings, all of which are in fine order. He has two barns, several sheds, and every convenience for his stock; also, a cider house, in which he makes, on an average, about twenty barrels of cider, annually. He has only four cows; but, judging from his cheese, they are of the best kind, as he has many and good cheeses. His garden is neat, well arranged, and contains almost every thing necessary in a kitchen garden, and nothing superfluous. Mr. Kimball has with him two sons, minors; he, with their assistance, carries on his farm, without that slow, but certain poison, *new rum*. He also does some considerable work in his shop as wheelwright and carpenter.

Your committee the same day examined the farms of Amos Cogswell, Esq. and Col. Stephen Moore, both of Canterbury.

Mr. Cogswell's farm contains one hundred acres of land, which, in its natural state, was rocky, hard, and uneven; but most of it of a good soil, strong, but rather wet and heavy. He has about twenty

acres of mowing, tillage, and orchard land, enclosed in two fields with a stone wall. Both are well cultivated; the stones are taken out, the land well manured, and very productive. He has three acres of corn, three of wheat, and two of potatoes, all of which were in a flourishing condition. He has two other fields, partly walled, but rather rough; a portion of one of them is low land, which formerly produced little but flags; but by draining, drawing on upland earth, and turning on the water from the hills, has been made to produce a good crop of valuable fodder. The remainder of his farm is pasture and woodland. He has a fine second growth, very valuable for wood and timber; also, for the manufacture of domestic sugar, probably several thousand young sugar maples. Mr. Cogswell's buildings are a low house, forty by thirty-two, an L, twenty by eighteen, well finished, and all necessary out buildings. He has three barns, large and commodious, and well finished, with every convenience for his stock, which consists of twenty head of horned cattle, two horses, and twenty sheep. He cuts about twenty-five or thirty tons of hay, more than one half of which is of the first quality. He is a taverner, and consumes about six tons in feeding traveller's horses. The whole labor of managing his farm, the present season, has been performed by himself, one hired man, and a boy thirteen years old, and it is done seasonably in a workmanlike manner.

The farm of Col. Stephen Moore contains one hundred and forty acres of land, a part rocky, but most of it rather light, loamy, or sandy land, and tolerably free from stones. Twenty years ago, Mr. Moore took the management of this farm; he found it in worse than a wilderness state; much of it had been cleared, and was overrun with bushes, briars, and weeds. There was nothing on the farm that could be called fence or buildings, and he is entitled to great credit for his industry and perseverance; for by these he has succeeded in making this one of the most productive and easily carried-on-farms in the town. He has erected a good and convenient house, two barns, sheds, and other out-buildings, all of which are in good condition. He has dug out the stone, laid them into good wall, and where stone was wanting, he has made a good fence of chesnut rails. His walls and fences are free from bushes, briars, &c. and his whole farm a sample of neatness and good husbandry. Mr. Moore has a large tract of low, sunken, brook meadow land, which he has cleared, some part of it drained, other parts ploughed, and in some places turned on the wash from the highlands, and so managed the whole as to cause it to produce a good burden of very good fodder for cattle and sheep. Mr. Moore keeps about twenty head of cattle, twenty sheep, from four to eight horses and colts, and makes sixty barrels of cider annually. He has from thirty to forty acres of wood and timber land, which he has cleared from windfalls and underbrush, and it is very handsome and valuable. His upland field contains about twelve acres of mowing and arable land, from which he has cut, the present season, about twelve tons of hay. He has four acres of corn, three of wheat and flax, and two and a half of potatoes. About one half of his tilled land, this season, is in his pasture; the crops all look well; part of his corn is very fine, and the land, in general, free from weeds. Considering the situation of this farm twenty years ago, when Mr. Moore first entered upon it, and what it now is, the improvements have been as great as can be found on almost any farm in the county. The labor has been done by himself and boys. The present season, he has no son with him old enough to assist him much, and the farm has been carried on by himself and one hired man.

Tuesday, July 28th, your committee proceeded to Boscawen, and called on Dr. Samuel Wood, who has a white mulberry tree, 33 years old, from which he has made silk for twenty-three years. The present season he has kept from five to six thousand worms, and reeled about two pounds of raw silk, worth, when manufactured into sewing silk and twist, probably twelve dollars. This is exclusive of the floss, or loose silk, taken off the outside of the cocoons before they are reeled, and the seed cocoons, which can be carded and spun to some profit and advantage. So far as your committee have knowledge, (and they believe it to be a fact,) Mr. Wood is the first person in this State, who raised the silk worm, or made silk; and in the opinion of your committee, is entitled to a special premium on this account, which they have awarded him, although they think him somewhat faulty in not using his influence to cause the mulberry tree to be cultivated by his neighbors, when he has, for so many years, been convinced of its utility.

Your committee next, (by invitation,) called on Capt. Enoch Gerrish, and examined his barn yard, and received from him the following account of his method of making manure, which they consider worthy the attention of every farmer. In August or September, he clears his yard of muck, from which he takes annually about two hundred loads, and then carts seventy or eighty loads of mud into it from a meadow, one mile distant. His yard is large, lowest in the middle, and the edges so raised, that in the wetest time, nothing runs out of it. On this his cattle lay one year. In dry weather in the summer it is so hard that it will not mire, but in wet

weather cattle mire in from one to three feet. In this way he makes two hundred loads of manure yearly, not including the heaps at his barn windows, which he carts out in the spring. By this means his farm is in a high state of cultivation, and improving every year.

Your committee visited the Shakers, and examined their gardens. These are more extensive and productive than any thing of the kind in this county. Their *culinary* garden at the first family, contains more than three acres of land, which is all occupied as a garden, and cultivated in a perfect manner. It contains every variety of plants, herbs and roots, useful or necessary for comfort or health, and they were in the most luxuriant state. Here may be seen, in the greatest perfection, the solid, good, and real blessings of industry, sobriety and temperance.

Their *botanical* garden is probably the greatest curiosity in agriculture, in the State. It contains about one half acre of land, on which is cultivated two hundred species and genera of roots, plants, herbs and flowers, most of which are of a medicinal nature, and are cultivated in great perfection. It is situated on an eastern slope, the soil is strong and moist, thoroughly cultivated and made rich, with manure. It is thrown up in horizontal beds in such a manner, that the surface of each bed, or section, is level, and each section from two to four feet higher than the one below; so that by standing at the easterly or lower part of the garden, it resembles stairs, one section regularly rising above another, through the whole. By this method, they have all the varieties of soil necessary to suit the different constitutions of the great variety of plants and roots, therein cultivated. Dr. Corbett, who has the care of this elegant establishment, is entitled to great credit for his industry and skill in managing this delightful spot, and collecting the great varieties it contains from every State east of the Hudson, as well as from Kentucky and Ohio. His exertions have been attended with that success, which has crowned untired exertions in all ages of the world; and without continued perseverance, nothing great or valuable can be accomplished in agriculture in this northern region. Thus, by his indefatigable exertions, he has succeeded in making this, in a pecuniary point of view, probably the most productive spot of earth in this state. The sales from this spot of land in 1828, amounted to one hundred dollars, and is yearly increasing, as the plants come to maturity.

ART. 159. *On the Agriculture of England—on Manures—Convertible Husbandry and Soiling.*

[By John Lorain.]

From the Memoirs of the Philadelphia Agricultural Society.

Dear Sir,—Scanty harvests will sometimes occur in every country, and when they take place in Great Britain, to any considerable degree, they excite alarming apprehensions, and seriously effect the tranquillity of the inhabitants, until plenty has been introduced by importations, and a return of more plentiful crops; and as the evil appears to originate in the prevailing partiality for old pastures, and the method pursued in laying them down, some observations on that subject may be interesting.

The immense advantages which the agriculture of Great Britain derives from an abundance of grass, has been too generally attributed to the superior management of their grass grounds; when, in fact, the produce and profits of those crops are greatly diminished in consequence of their management, and their grain and other crops are deficient from the same cause.

When Britains became agriculturists, the grasses which had supplied their cattle while they were shepherds, were ploughed in proportion to the extent of their cultivation, until it became necessary for art to assist nature in the multiplication of grass grounds. It is probable, that at that period, they introduced the injudicious practice of forming pastures from seeds indiscriminately gathered from hay lofts, without reflecting, that by this means they introduced late and early, good and worthless plants, with all the intermediate qualities between those wide extremes, together with innumerable weeds; and it appears strange, that the enlightened agriculturists of that country should still persist in that same mode, with little deviation, although they are frequently disappointed in accomplishing that object, after much labour has been expended, and the income from the grounds are either lost, or considerably curtailed; and after all this expense, to procure permanent pastures, they are frequently indebted to nature, aided by expensive extra manurings, to cover their grounds with grasses; some, after being frequently disappointed, have even encountered the enormous expense of covering the ground with sods, procured from lanes, road sides, and other places.

Although the agriculture of Pennsylvania is in general inferior to that of Great Britain, yet there are improvements in this country worthy their attention. The Pennsylvania farmer selects his grass seeds from the most approved plants; no unknown mixtures are admitted; they are gathered, threshed, cleaned, and kept separate, and by this means we are in possession of the best plants that have as yet claimed our attention; and those who are in the habit of attentive observation, are acquainted with their

different properties, except the relative value of each in fattening cattle, a point that has been too little considered, either here, or in any other country, although there are some plants infinitely superior to others for that purpose. If those were known and cultivated separately, much less ground would be found sufficient to fatten an ox, than is at this time necessary for that purpose. Indeed, there are few questions equally interesting to the farmer, or that can be more readily determined, than the fattening properties of grasses, especially in England, where they have easy modes of weighing cattle, and can readily ascertain what they have gained or lost, in any given space of time. But not only the knowledge of the fattening properties of grasses, that may be obtained from the separate collecting of grass seeds, but all the different properties of the various kinds of grasses may be thereby understood, such as those best calculated to increase the quantity of milk, butter, or cheese,* and to give additional value to their flavour. Useless plants may also be eradicated, and the space they would occupy may be filled with other plants, that spring early, and continue growing through every season, until frost has locked up the powers of vegetation. By this means, also, grasses suitable for every soil and climate, may be obtained, and the fruitless labour of endeavouring to establish such as are not congenial with either, avoided. Finally, farmers may, in this way, as readily become acquainted with the grasses best adapted to their different fields, as they now are with the best grain, roots, &c.

Although the abolition of naked summer fallows, has unquestionably introduced an immense improvement in the agriculture of Great Britain, there can be but little doubt, that the abolition of old grass grounds, and the methods of laying them down, would introduce much greater improvement, the extent of which will be found incalculable: for many of the plants growing in them, ripen late in the season, others are very diminutive, or are not relished by any kind of stock: all those, as well as innumerable weeds, which too generally take possession of a considerable proportion of old grass grounds, may be eradicated by a well conducted system of convertible husbandry; and grounds which have been recently laid down, in a high state of cultivation, with good grasses, suited to the soil and climate, will yield at least double the income which could be obtained from the same grounds, had they continued inold pasture.

(To be Continued.)

* The possibility of attaining these objects has been rendered probable, by the sudden change in the taste of cow's milk, from feeding a short time on *Fiorin* grass. See Archives of Useful knowledge, vol. 2, p. 275. Farmer's Magazine, Edinburgh, March, 1812, p. 12.

ART. 160. *On the cultivation of the Aracacha plant in the United States, and in the island of Cuba.* [For the New-York Farmer].

It is well known to horticulturists, that several plants of this species, were received a few seasons ago, in a living and growing condition, from Caraccas through the public spirit of Thomas H. Mitchell Esq. He presented them to me, and I placed them under the protection of our worthy colleague, Michael Floy. The cold weather coming, he put them into his green house, and they went thriftily through the winter. When the warmth of spring was felt, he removed them to the open ground of his garden. The weather was for a considerable time unusually dry, and they perished. I do not know that any others have been received among us since. In the appendix to my address before the New-York Horticultural Society, as well as in the body of the address itself, I mentioned the strong doubts I entertained of the practicability of its profitable introduction into our country. Still in reading Sagras' Annals of Science, Agriculture and Arts, for June, 1829, I found an article (Number 24, page 356–358,) on the subject, which I considered worthy of a translation, which I offer for insertion in your valuable repository.

SAMUEL L. MITCHILL.

This precious plant, of the family of the umbelliferæ, which is cultivated on the continent of America, as well as in Jamaica, ought to be introduced into the island of Cuba and transported hence to the peninsula (Spain,) where it would be of great benefit. The foreign journals recommend it as preferable to the potato (Convolvulus batatas) as being richer in alimentary matter, and more agreeable to the taste. It seems to us very probable that it may have been brought to some points along the coast of Cuba, nearest to Jamaica, such as Trinidad, and under this persuasion we give the following note on its cultivtion, hoping soon to see it introduced into the immediate neighborhood of Havannah.

This vegetable is multiplied by planting the roots. Each root is covered with sharp pointed tubercles. Those intended for propagation are separated or divided in such a manner that the base of each bud may have a fleshy portion two or three inches long connected with it. The germs are removed in such way that the vegetative force may be concentered to a single point.

The cuttings must be arranged about 18 or 20 inches apart, with a gentle inclination to the soil.

After they have come up, they are to be trodden down like potatoes.

When the blossoms begin to form, they are to be cropped, that the vegetation may be directed to the roots.

In Santa Fe, where mean temperature is 23 de-

grees and 3 tenths of the centesimal thermometer, the root comes to perfection in six months. In Havannah it ought to be matured in four.

When the roots are exposed for drying in the open air of a field, this process should be three days at most.

It appears that in Jamaica where it grows very well, it is cultivated in poor grounds (such as the mountains of St Andrew) where it gets but little rain.

The French periodicals of agriculture and industry, are clamorous for this plant, and the editor of one of them, M. Moleon, has taken all the necessary stepts for procuring it. The orders despatched by the ministers of the Marine and of foreign commerce have assured the precious acquisition to France. Can it be possible that the inhabitants of the banks of the Seine, shall take crops of aracacha roots, sooner than those in the vicinity of Trinidad or Cuba?

To such persons as may, under the instruction of this note, attempt to fetch the arracacha from Jamaica, that they should not take the entire plant, but the roots only, which should be packed in charcoal of wood in very dry powder. Such boxes can be brought without any difficulty, while on the contrary, the living plants will require much water, which, though it may keep them alive, accellerates the decay of the roots.

Remarks by the Editor.—Mr. Floy is very sanguine that the above plants can be raised in this latitude. The death of the plant was owing to an incautious and sudden exposure.

[The following plan of a School, to unite mental culture with bodily labor, cannot fail of being read with much pleasure, by all who take an interest in the welfare of their fellow beings. We are much pleased to see the increasing attention paid to *laboring schools*—a plan of education, which, in our view, will greatly augment the happiness of mankind.]

ART. 161. *Constitution and By-Laws of the Polytechnic Institute of Shrewsbury, Monmouth County, state of New-Jersey.*

To the Friends of Improvement in the United States, and in our sister Republics of the South.

That the universe, with its wide dominions, its splendid habitations, its varied furniture, and its mighty population, was created for the production of rational *happiness*, is a truth announced by religion and approved by Philosophy.

We shall not, therefore, be accused of speaking at random, when we affirm, with unhesitating confidence, that man, in imitation of his Maker, is not only safe and prudent, but wise and dutiful, in concentrating the energies of all his powers, his thoughts, and feelings, in the pursuit of *good*.

But what is good? and what is happiness? That is *good* which imparts to an intelligent and sentient mind a rational and permanent delight: and that is *happiness* which such a mind feels in the possession of good.

But experience has taught us that the mind of man derives its nicest relish of enjoyment from giving rather than receiving; by imparting rather than by courting happiness; by being an active agent, rather than a passive subject. Hence it follows, by the clearest inference, that good and happiness are but other names for *duty*. Every duty implies a corresponding *right*, both rights and duties being the necessary result of the various relations by which man is allied to his fellow-man, and to his bountiful Creator.

To instruct men, therefore, in all their duties and in all their rights; to persuade them to perform the one and to protect the other, is the great and important object of all *education*.

But the sphere of human duty and of active usefulness is large and complex. The relations of creature and Creator, of child and parent, of wife and husband, of sister and brother, of ruler and subject, of master and servant, of friend and friend, of neighbor and neighbor—these and many more originate a multiplied variety of duties, on the faithful performance of which man must eternally depend for that exalted happiness which God has allotted to piety and virtue.

It may not be improper, in this place, to inquire, whether the methods of education generally pursued, even in this age of improvement, be properly adapted to the high and holy purpose of teaching the children and youth of our country to be actively useful, in order that they may be eminently happy? We ask this question, not so much for the purpose of depreciating the existing methods of instruction in colleges, academies, and schools generally, as with a design of inducing the public to consider well, whether a better system may not be adopted; a system by which *all* the faculties of man, the physical, the moral, and the intellectual, shall be *equally* and harmoniously developed. We say *harmoniously* developed; for without a harmony in the development of his powers, man is not man, in the perfection of his nature. The cultivation of his *intellect*, merely, may indeed render him a literary Colossus, without the ability of ordinary usefulness, and without the habit of even common sense. The development of his *physical* capabilities alone, may serve to render him a splendid savage, capable of inflicting injuries upon others, and exposed to ruin in the tempest of his

passions. If his *moral* faculties only be subjected to culture, the *science* of the head and the *art* of the hand, are totally incommensurate with the benevolent purposes of the heart.

In a land of republican freedom, nothing but the smiles of Heaven can be deemed so absolutely essential to the perpetuity and perfection of our political and religious institutions, as the equal and mutual cultivation of all the latent energies of the youth of our country, directed to the goal of happiness in the path of duty.

But how, it may be asked, shall an object thus desirable, be effectually attained? The answer is at hand—By employing methods of instruction, in which shall be inculcated all those truths that pertain to mortal life, and human duty: in the place of systems, venerable indeed for their antiquity, by which the memory is burdened with a mass of pretended knowledge, with which the interests of man have not the slightest concern.

To organize a system thus *practically* useful, has been resolved by a company of individuals, long and labouriously engaged in the business of instruction. The annexed Constitution is an exact copy of their mutual compact, from which it will be seen that an efficient encouragement is proposed to be given to the most interesting pursuits that can engage the youthful mind—to General Literature—to the improved Sciences—to the Liberal, as well as the Useful Arts—to Agriculture, Horticulture, and Land scape Gardening, in the manner following—to wit:

First—By forming a Company or a co partnership, with an adequate vested capital.

Secondly—By providing an extensive tract of valuable land, suited to the object.

Thirdly—By erecting such buildings as the nature of the establishment shall require.

Fourthly—By employing professors, teachers, and masters, of the first character.

Fifthly—By providing philosophical apparatus, books of Literature and Science, a Museum of Natural History, a Botanical Garden, implements of Husbandry, and tools of Art, proper for such an institution.

Sixthly—By affording facilities to young men of talents and industry, which are found in no pre-existing school, academy, or college in these States.

Lastly—As one of the principal designs of this institution—By giving opportunity to such as are desirous of becoming acquainted with the best methods of *instruction*, and thus to prepare themselves in the shortest time, and under the most favourable circumstances, to instruct in schools and academies.

One of the most spacious farms in the state of New-Jersey has been selected and purchased, and one of the buildings already commenced. This farm is situated in one of the most healthy and delightful sections of the United States, thirty miles south of the city of New-York, seventy miles north east of Philadelphia, six miles east of Shrewsbury, and six miles north of Long Branch, in the county of Monmouth. The farm is bounded on three sides by tide waters, having the ocean on the east, North Shrewsbury river on the north, and South Shrewsbury river on the south, both of which rivers are navigable for packets, sloops, and steamboats. These waters abound with oysters, clams and other fish of the best quality. A pure stream of fresh water traverses the land from west to east. The fields are enclosed with hedges, which give the whole a picturesque appearance. The hills of Navesink are in full view on the north, and on the east the ocean, beautified with vessels of all descriptions at every season of the year.

The woodlands, of which there are more than a hundred acres, contribute much to the general landscape; and two orchards, one of apples and one of peaches, fill up the outline. On the whole, it may be said, with strict propriety, that no tract of land, of equal extent, combines more advantages for such an institution.

On the shore, adjacent to the ocean, at the distance of nearly a mile from the central square, it is proposed to erect suitable buildings for family residences in the summer months. The site proposed is not surpassed on the Atlantic coast as a delightful watering place.

In relation to professors, teachers, and masters, it may not be irrelevant to state that the proprietors have already contracted with several individuals of unrivalled talents and experience, and are determined that no seminary in the country shall exceed the Polytechnic Institute, either in the number or abilities of its executive agents.

On the subject of facilities afforded to pupils, whether rich or poor, the plan of this institution stands without a parallel. If the rich can procure for their sons, by sending them from place to place, at great expense and trouble, sufficient instruction in the sciences and liberal arts, it should not be forgotten that the Polytechnic Institute offers equal advantages to *all*, by enabling any industrious and ambitious youth to gain an independent living and an accomplished education by virtue of his own exertions.

Agriculture and the productive arts are connected with the operations of the institution in a triple capacity. They afford timely and wholesome exer-

ease and amusement. They supply the deficiency of funds in case of the indigent. They qualify for usefulness and prosperity in all those instances in which a learned profession is not the object of education.

In regard to such young men as desire to become more efficient teachers in schools and academies, no pains will be spared to afford them every advantage that such a destination may require. The best methods of inculcation will be made known to them, opportunity of practice afforded them, and certificates given on their leaving the Institute.

It is also intended to educate clerks expressly for mercantile houses, and so to direct the studies of all pupils who design to pursue the business of merchandise, as to qualify them for that employment.

To secure the hearty co-operation of all the pupils in promoting their own welfare and that of the Institute, it is hoped that every parent sending to the school, will purchase a share of the stock to become the property of his son, with accumulated interest on his obtaining an honourable testimonial of general proficiency from the Resident Directors.

In addition to the funded capital, donations will be received from benevolent individuals, for establishing professorships, founding scholarships, erecting buildings, increasing the library, mineralogical cabinet, botanical collection, museum of natural history, or such other purposes, as the donors may prescribe.

For the purpose contemplated, th Land may be estimated at $40,000; the necessary Buildings, Docks, &c. $40,000; Stock, Farming Utensils, Philosophical Apparatus, and Tools of Art, $20,000

GEORGE WASHINGTON HALL,
SETH T. BARSTOW,
SOLYMAN BROWN,
Resident Directors.

CONSTITUTION OF THE POLYTECHNIC INSTITUTE.

Article 1. The co-partnership, or incorporated company, as the case may be, shall be entitled, "The Polytechnic Institute of Shrewsbury, Monmouth County, New-Jersey."

Art. 2. The operations of the Company shall be directed to the cultivation and encouragement:

First, Of Literature and Science.

Secondly, Of the liberal and useful Arts.

Thirdly, Of Agriculture.

Art. 3. The capital stock of the company shall consist of one hundred thousand dollars, divided into shares of one hundred dollars each.

Art. 4. The officers of the company shall be ten in number, namely, a President; a Vice-President; a Treasurer; a Secretary; a resident Director, acting as Superintendent of Literature and Science; a resident Director, acting as Superintendent of Agriculture, and resident Physician; a Resident Director, acting as Superintendent of the liberal and useful arts; a Non-Resident Director of the city of New-York; a Non-Resident Director of the city of Philadelphia; a Non-Resident Director of the state of New-Jersey.

Art. 5. The Board of Resident Directors shall be constituted by mutual agreement, and shall solicit an act of incorporation of the Legislature of the state of New-Jersey, with power to confer diplomas, and with further power to appoint successors in office in case of resignation or removal, and with further power to hold real estate and perform such other acts as are lawful and proper for bodies corporate; and in case such act of incorporation shall not be granted, the Resident Directors shall transact the business of the Company in the manner of a co-partnership.

Art. 6. A written or printed certificate of stock, signed by the Resident Directors, shall be given to every stockholder, and endorsements made thereon for each instalment of twenty-five dollars per cent. semi-annually paid, in four payments successively, said endorsements to be made by one of the Resident Directors.

Art. 7. Every certificate of stock shall become null and void, on the refusal or neglect of the holder thereof to pay the semi-annual instalments of twenty-five dollars each, until the full sum of one hundred dollars shall be paid on each and every share.

Art. 8. A record of stock shall be kept by the Corresponding Secretary, which record shall be good and legal evidence in favor of the holder, in case of the accidental loss of his scrip.

Art. 9. Each and every certificate of stock shall be numbered, given to order, and capable of sale or transfer.

Art. 10. Each and every stockholder shall be legally entitled to an interest of six per cent. per annum, secured by the lands, tenements, and other property of the Company.

Art. 11. The Board of Directors shall be requested by the Resident Directors to assemble annually in the month of August, on a day by them appointed, at some one of the private residences on the lands owned and occupied by the Company, for the transaction of any business that may come before them; at which annual meeting they shall be vested with plenary authority to examine pupils, to confer diplomas, and to advise the Resident Agents of the Company in relation to the operations of the ensuing year.

BY-LAWS OF THE POLYTECHNIC INSTITUTE.

Article 1. All sectarian distinctions shall be avoided.

Article 2. Corporal punishment shall be totally prohibited, and a system of parental government substituted in its place, operating by moral force.

Article 3. Equal and reciprocal justice shall be carefully regarded in the alotment of salaries to professors and other agents of the Company, and in relation to prices of tuition and personal services required of the pupils.

Article 4. The salaries of professors and agents, the prices of tuition, and the terms of admitting pupils, shall be determined by the Resident Directors.

Article 5. Diplomas of general scholarship shall be conferred by the whole board of Directors at their annual meetings; but diplomas given to teachers attesting their qualifications to instruct in schools and academies, and certificates to clerks, shall be awarded by the Resident Directors.

Article 6. There shall be no periodical vacations in the Institute, but all privilege of absence from the studies and other operations of the Company for a limited period, shall be by permission of the Resident Directors.

Article 7. No pupil shall be received for a less term than one year, excepting such as are qualifying themselves to be instructors, or clerks.

Article 8. No diploma shall be conferred upon any pupil until he shall have been a member of the Institute for at least three years, excepting such as are conferred upon instructors.

Article 9. Profane language, gambling, and the use of ardent spirits, shall be utterly prohibited on penalty of suspension or expulsion.

Article 10. A kind and affectionate deportment shall be observed by the superintendents, professors, and teachers, towards their pupils; and obedience and respect shall be required of every pupil in relation to the officers and agents of the Institute.

List of Officers, Professors, and Masters, in the Institute.

President of the Board of Directors; Vice President of do; Treasurer of the Company; Secretary of the Board of Directors; Non-resident Director of the city of New-York; Non-resident Director of the city of Philadelphia; Non-resident Director of the state of New-Jersey; Resident Director and Superintendent of Literature and Science: Resident Director, Superintendent of Agriculture, and Resident Physician; Resident Director, Superintendent of the liberal and useful arts, and Corresponding Secretary; Professor of Mathematics and Natural Philosophy; Professor of the Ancient Languages; Professor of the French Language; Professor of the Italian Language; Professor of the Spanish Language; Professor of Chemistry and Mineralogy; Professor of Botany and Horticulture; Professor of Ethicks and Intellectual Philosophy; Professor of Political Economy and International Law; Professor of Elocution and Rhetoric; Professor of Analytic and Instrumental Music; Professor of Drawing and Painting in oil and water colours; Professor of English Literature; Professor of Practical Book Keeping; Professor of Ornamental Penmanship; Professor of Architecture and Master Builder; Professor of Horsemanship and Athletic Exercises; Master Mason; Master Cabinet Maker; Master Painter and Gilder; Master Harness and Saddle Maker; Master Wheelwright, Carriage and Wagon Maker; Master White and Black Smith; Master Boot and Shoe Maker; Master Tailor and Cap Maker.

ART. 162. *Disease in Cattle.* [From the Newburyport Herald.]

Mr. ALLEN,—A very singular disorder has appeared among my stock of cattle, during the past summer, some account of which, by your leave, may be the means of ascertaining its nature, and leading to a cure in cases like circumstanced. In June last, two cows, two oxen, and two horses died, and last week, one horse and one ox, in all, eight creatures. The first that died was, without any previous symptons of disorder, found dead in her stall. The others lived between twelve and eighteen hours from the attack; symptoms, heaviness about the eyes and loss of appetite without much apparent pain until shortly before death, when the agony became extreme. On opening the bodies, the intestines were found in a healthy state, the vital parts not disordered, and no appearance of disease, save in the spleen or melt, which was enlarged to twice its usual size, and looked mortified. All the ordinary means for curing cattle were used in these cases. A number of cattle belonging to different persons in this neighborhood have died, apparently from the same cause.

Yours, &c.

ROBER PATTEN.

Amesbury, Nov. 20, 1829.

ART. 163.—*Polypus of the Ancients—and Fosil Madrepore, dug up in the city of New-York.* [For the New-York Farmer.]

The Sepia Octopoda, or eight footed cuttle fish from St. Jago island, was received through Captain

Benjamin Richards. The specimen is small. The arms are not more than six or seven inches long; which, when expanded, make a range of double that extent. Their inside is beset with suckers, in the form of toothed mouths without throats. These are the means by which it seizes and holds its prey until conveyed to the central mouth to be swallowed. In comparison with the arms, the body is of a diminutive size. This is the Polypus, or many footed creature of the ocean, mentioned by Aristotle, and known to the ancients. It is believed to attain enormous magnitude, so as even to surpass the whale in bulk. Indeed, there have been persons who believe that the stories told by navigators concerning the Kraken are realized by this arrival. Such facts as I was able to collect from various respectable sources, were published in the Medical Repository, of this city, in the form of a communication addressed to my late friend, Baron L'Escallier, then Consul from France. To that paper I refer for the extensive evidence on the subject. It is owing to the unwieldly and unmanageable nature of these productions, that naturalists know so little about them. S. L. M.

A specimen of a polypier of this family, was lately dug out of the ground in the village or suburb of Greenwich. It is of oblong form, fourteen inches in length by nine in breadth; and of a corresponding thickness. It is in fine preservation; and variegated by curvilinear elevations and depressions over the whole upper surface. These wind about in many forms and directions, and exhibit the appearance of streets, with adjoining spaces, resembling lato, curiously laid out. It would seem as if the polypes, who were the original inhabitants, had some idea of an arrangement for a city. In modern classification, it holds a place among the meandrines.

There is a zone or stripe of New-York city, noted for the organic remains discovered in it. This extends from the neighbourhood of the orphan asylum to the vicinity of Corlear's hook. In this tract have oyster-shells, polas-shells, cardiums, corallines and various kinds of madrepores, repeatedly been found in digging out the streets and levelling the high grounds.

These will soon be put beyond the reach of human observation, by the completion of the levelling operations, and by covering the surface with houses and buildings. Our successors will in future days learn only from records like this, that such memorable phenomena in geology ever existed hereabout.

The appearances are the more curious, inasmuch as the basis or substratum of the island is gneiss of a very compact kind, overspread with boulders, (some of them of huge magnitude,) of actinotite, hornblend, greenstone, and asbestos. Thereby cartage and clearage are fast disappearing, and will in a short time be known by history alone.

ART. 164.—*The Coconut Squash from Lima, in Peru.* [For the New-York Farmer and Horticultural Repository.]

Mr. Rathbone, a gentleman from the western part of the state, gratified me a few days ago with a sight of a new variety of fruit. It is called the Coconut Squash. The seeds were received from Lima, in Peru, last spring, in a letter from a son to his father, being, as the good boy stated to his parent, all he had to send him. Being planted on one of the islands, in the Hudson river, not far from Albany, they vegetated with great luxuriance, and produced a noble crop.

They have received the name from the resemblance of their figure to that of the Coconut. The heaviest weighed upwards of ten pounds. The color of the skin is green with a brownish crust or covering. The pulp is of a beautiful saffron or carrot color.

By boiling, it is converted to a tender and delicate sauce, of remarkable sweetness, and excellent when eaten cold as well as hot. It seems to possess the joint qualities of the squash and pumpkin.

I have caused a fair experiment to be made with the one which was presented to me; and all who have tasted, are pleased with its rich complexion at table, and palatable flavour.

As Messrs. D. Kenney & Co. have the seeds for sale, it may be expected that cultivators will not fail to supply themselves and enjoy the benefit of such a valuable culinary and horticultural article. S. L. M.

New-York, Nov. 1829.

[A Lady made a request to the Editor to furnish for the use of her son, a list of books, and to recommend those studies, best adapted to the education of a young farmer. In compliance with the request, finding the subject would admit of considerable dilation, we concluded to give our views more at large and to insert them in the N. Y. Farmer.]

ART. 165. *Education of a Young Farmer—Letters from the Editor of the New-York Farmer to a Lady of New-Jersey.*

Madam,—In compliance with the wishes you ex-

pressed, during my visit to your friendly mansion, I now will attempt to give you my views on that course of education most adapted to the circumstances of your son, and best calculated to make him a successful farmer, a useful citizen, and a happy man.

You stated that he was pretty well acquainted with Geography, Arithmetic, and English Grammar, and had paid some attention to navigation—that you were anxious he should have a good, though not a collegiate education, but were apprehensive he was rather too much inclined to light reading. You fully agreed with me, in our conversation, that one great and primary object in school instruction was to create a taste for useful knowledge, and to discipline the mind to those habits of thinking and investigation, that would lead, during life, to mental culture and to the acquisition of useful information. Without a taste for the improvement of the mind, or a love of knowledge, a youth at the present day should be considered as belonging to the seventeenth, rather than to the nineteenth, century. If, through an inappropriate education, or unrestrained and ungovernable constitutional propensity for animal gratification, a youth is permitted to grow up in the utter disregard of intellectual pleasures, he is disqualified to participate of the greatest sources of enjoyment with which Providence peculiarises these later days of the christian world—I mean mental culture in distinction from corporeal employment and mental inactivity. As mankind advance in the arts and in civilization, their facilities in supplying the wants of the body increase, and consequently more time is left to furnish food for the mind. The great improvements in machinery illustrates the above hypothesis, and the immense number of periodicals and other works that are daily issuing from the press, and the numerous schools of various kinds starting up in every section of this and other civilized countries, exemplify the conclusion, and show that the mental wants furnish employment and a livelihood to no small proportion of the inhabitants of a civilized nation—and as the christianised world becomes more enlightened, these wants will increase, affording additional employment and support. This is a wise and most admirable provision of Providence! And indeed, why should not the cultivation and enjoyments of the mind occupy as much time as is required in furnishing bodily aliment? It certainly is not derogatory to the dignity of man that they should. If, by his skill, activity and industry, he can lessen the number of laboring hours and add to those devoted to literary pursuits, and to deeds of benevolence, it unquestionably would comport with his dignity and happiness. Many parts of Germany exhibit an illustration of the time devoted to reading books, and of the employment furnished in making them.

The conclusion, Mrs. T———, that I would draw from the above remarks, is, that the interest, usefulness, respectability and happiness of your son, require that such a portion of his time should be devoted to the improvement of his mental faculties, as will comport with the enlightened state of the age, and the sphere in which he is to move. The studies which, in my view, will tend to qualify him for his station, I will now, without further digression, designate.

To turn the attention of a youth to books and study, I deem it of no small importance, that he be furnished with a *book-case*, containing drawers for papers, and conveniences for writing. It is not sufficient that he have a place for his books with those of the rest of the family—it must be his *own property*. This gives it double value, double endearment, and tends to exert much influence over the mind.

He has, you say, been taught navigation. It is by no means useless for a young farmer to be acquainted with this study; but to take it up before becoming acquainted with Euclid, is to pass over the elementary and fundamental principles of a science, and begin with the results, without being able to discover the steps by which the deductions and rules are drawn, on which the branch pursued depends. Consequently, all is learned by rote, and a degree of mysticism and darkness are thrown over the study. After a scholar has become master of arithmetic, the next step should be to Algebra and Euclid. The latter, in particular, is one of the best books for disciplining and strengthening the mind, and is the foundation and ground-work of geometrical studies. A youth, who has become thoroughly acquainted with the most important books of Euclid, is more able to comprehend the principles of surveying and navigation unassisted by a teacher, than with his assistance while ignorant of Euclid. One great fault in the education of youth, is the improvement of the memory at the expense of the powers of perception, or of the faculty or habit of getting clear and distinct ideas. The study of Euclid, where the mind perceives clearly or not at all, is calculated to correct this evil. The practice of committing to memory, without getting full and distinct ideas, rather weakens than strengthens the mind. Not a verse should be recited, nor a page read, without having the meaning and sense fully impressed on the mind. Several years ago, in writing on this subject, I used the following language:

"Books put into the hands of youth were not expected to be understood until they arrived at a more

mature age. Nothing could be more contrary to nature; nothing could be better calculated to dampen ardour and create a dislike for school and study. Many who were designed by nature to be Newtons, Lockes, and Pitts, have left their schools in disgust." More in my next.

ART. 166.—*Large Strawberries—new and successful method of cultivating them in England.* By MICHAEL FLOY. [To the Editor of the New-York Farmer, &c.]

Sir,—As the reports of Strawberries having attained to a very large size, and of superior quality in England, by the introduction of new sorts, together with a new mode of cultivation; I shall trouble you with a few observations relative to their culture in this country, after extracting the following from Loudon's Gardeners' Magazine. The account appears to come from a Covent Garden Market Gardener, who gives a list of these fine sorts with the method of their management.

From Loudon's Gardeners' Magazine, page 472.—"The kinds are: *Keen's seedlings*, the *Bostook seedling*, the *Roseberry*, the *Downton*, *Wilmot's superb*, *Grange's black Prince*, *Wilmot's new scarlet*, *Knevitt's new pine*, with *Faulkner's new scarlet pine*.

"The above selection embraces all that may be considered valuable, as cultivated in the immediate neighbourhood of London; the method of culture to which I allude, is almost too well known to make it necessary to mention it; but as many of your remote readers may not be directly acquainted with it, I will just give the culture.

"At the season of the year (July) the earliest and strongest runners are placed in the most open spaces of the garden, in rows about two feet apart, and about one foot six inches from each plant in the row.

"To fill up the space, a crop of lettuce may be planted between, for the autumn and early winter use; or the ground intended for them, may be previously sown with onions, to be cleared off at the usual period in September; by this early planting, the plants become strong and come into bearing the first season, producing both early and fine fruit, which, by exposure to the influence of the sun, acquire size, colour, and flavour; the following year the plants come into full bearing; by this method a constant supply of fine large fruit may be obtained, far superior to the old method of planting them in beds of several rows together, and allowing the runners to fill or choke up the intermediate space."

The new method of culture appears to consist—1st. In making new plantations frequently, perhaps every two or three years.

2d. To plant them much earlier in the season than the former practice used to be, when the fall was generally thought to be the best time, (September and October.)

3d. To give the plants more room, two feet by one foot six inches apart is here recommended, instead of being planted in beds.

4th. To plant them in very rich ground; for both lettuce and onions are generally planted on well manured ground.

5th. And perhaps the most important of all, to have a selection of *fine* large new *sorts* only; for no cultivation will make the small old kinds become so large as to attain the size represented in Loudon's Magazine, where it is said at one of the Horticultural exhibitions, "*less than twenty berries weighed a pound weight.*" *Page* 485.

With regard to the intercropping of lettuce between the rows, this is done in England, no doubt, to fill up and make the most of the ground, but would not answer so well here; we very seldom plant lettuce so late; our principal crops of lettuce are at this time fit for market, or off the ground; neither would it do to interplant among the rows of onions, they would be at this time pretty large; to be sure, where ground is very valuable, and labor cheap, the intercropping may be made with beets, radishes, bush-beans, &c.; but it is very troublesome to keep the crops clean of weeds, where the hoe cannot be used to advantage, on account of the intercropping between the rows; and surely the strawberry plants would get much stronger, and finer, if there was nothing in the way to stop their progress; and they might be planted without the incumbrance of other crops a month later, say the latter end of Aug.; a crop by this time might have been taken from the ground, either lettuce, radish, early peas, or some other early crop, and the ground fresh dug, or ploughed and manured for the purpose; our falls here are so much longer, and finer, than they are in England, that there can be no doubt but the plants would be quite as strong by the time winter set in. However, the hints from the above extract may be useful to our gardeners and cultivators to bring into notice those fine kinds of strawberries, and to cultivate them in the best manner.

The following description of the above kinds of strawberries are from Mr. Barnett, in the London Horticultural Transactions; and from the manuscripts of my son James, who examined the various fruits in the garden while gardener there in the years 1826—7—8.

Keen's seedling Strawberry, (raised by Mr. Keen of Isleworth.)—"No strawberry that has been recently produced has excited so much attention as Keen's seedling—a most excellent bearer, ripening early, soon after the scarlets, and before any other of the pines. The fruit is very large, round or ovate, some of the largest assuming a coxcomb shape, when ripe of a very dark purplish scarlet next the sun, the other side paler, slightly hairy; seeds a little embedded in the polished surface of the fruit, which has usually a furrow at the apex; the flesh is firm, solid, scarlet, without any separable core.

"This strawberry is a very extraordinary production, possessing beauty, size, firmness of flesh, as well as productiveness;" (Barnett, in Hort. Trans. page 56.) We received a few of the plants in the spring of 1827, from the Society, and have a few plants for sale at 50 cents each.

Wilmot's Superb Strawberry.—"This is a new production, raised by Mr. John Wilmot, of Isleworth. in 1821, from seed of the true Chili impregnated by the pollen of the Roseberry; it appears to be an abundant bearer, ripening late in the season, after the old pine, and in succession, so as to afford a lengthened supply. The first fruits are very large, irregularly rounded, ovate, or flattened, sometimes growing of a coxcomb shape. The other berries are invariably round—the flesh very firm, pale scarlet next the outside, within whitish, with a small hollow in the centre, flavour very good, buttery and rich, mixed with acid—the fruit is very beautiful and of extraordinary size." *Ib.* page 64. A figure of this fruit appears in the transactions, although raised in 1821; yet as late as 1826 the plants were scarce and sold by the nurserymen at very high prices. We received a few plants from the Society at the same time as the former, and are now worth here 50 cents to one dollar a plant.

The Roseberry Strawberry, "was raised about the year 1808, in the garden of Robert Davidson, Esq. at Aberdeen. It was sent to London from Aberdeen in the spring of 1815; in the following year the fruit it produced excited considerable attention.

"A history, description, and figure of it, were published in the transactions of the Horticultural Society in 1817.

"It is a most abundant bearer, coming in a week after the old scarlet, and continuing to produce blossoms and fruit plentifully, in succession for several weeks. "The fruit is large, conical, and pointed, with a very short neck, dark red, hairy, the early fruits assume a coxcomb shape where the plants are luxuriant." *Ib.* page 12. We received this kind also from the society at the same time and sell the plants at 25 cents, or 1 dollar per doz.

The Grove End Scarlet Strawberry.—"A seedling raised by William Atkinson, Esq. in his garden, at Grove End, Marylebone, in the year 1820. An abundant bearer, ripening its berries in succession, and also early. The fruit is of considerable size, depressed, spherical, of a uniform, bright, light, vermilion colour. A first rate Strawberry, in habit like the Roseberry, but the leaves are more elevated, and they do not shade the fruit much; it is singular on account of the coarseness of the serratures, although the leaves themselves are small and of thin texture. Mr. Atkinson states that from a bed in his garden fourteen feet long and five feet wide, a basket equal to a pottle and a half was picked every day for nearly a month." *Ib.* page 15. This kind we received at the same time from the Society, and sell them at 25 cents, to 1 dollar, per dozen.

The Downton Strawberry,—"was raised by the President, (T. A. Knight), from a seed of the strawberry called Knight's large scarlet, impregnated by the pollen of the old black.

"It is an abundant bearer, coming in late, and as it ripens its fruit in succession, lasts a considerable time. The fruit is large, ovate, with a slight neck, slightly downy, the early fruits in good situations become conspicuously coxcombed; when ripe, they are of a very dark purplish scarlet on the side next the sun, the other side being paler." *Ib.* page 41. We received plants of this kind from the society, at the same time, but unfortunately lost them; we expect some of them this winter.

Knevett's New Pine Strawberry.—This is a strawberry of more recent introduction. The fruit is very large, and fine; the plants were first offered for sale by Mr. Knevett in the fall of 1827, at 20 shillings sterling the dozen. We received a few plants last fall, of which we have but a small increase at present. James, who visited Mr. Knevett's Garden in the Strawberry season of 1828, describes the fruit as very large, and of excellent flavour. Mr. Prince, of Flushing, exhibited a specimen in fruit this season before the New-York Horticultural Society, but as the plant was imported the year before, had not attained to that perfection which it will do when better established.

I observe in James's Manuscripts, he recommends very highly the *Keen's Seedling* as being superior both in size and flavour to any other, and the fruit often weighing from 1 to 2 oz. He also speaks highly of the *Roseberry, Downton, Grove End Scarlet*, and the *Grimstone Scarlet*, as being high flavored, good bearers, and of good size. Mr. Barnett describes

the *Grimstone Scarlet* as, "A most excellent strawberry, deserving of general cultivation; its peculiar merit is the sweetness of its fruit." *Ib.* page 22. We received plants of this kind from the society at the same time with the other kinds, and have a good stock of them; we sell them at 50 cents per dozen. To the foregoing list (although not mentioned in the extract) may be added the *Prolific* or *Conical Hautbois Strawberry*, the fruit being high flavored and perfumed, and by most people esteemed very highly, as well as a great and constant bearer. The following are the descriptions by Mr. Barnett, page 69. "This kind was brought into notice several years ago, in consequence of its having been cultivated in the garden of the late *Sir Joseph Banks*, at Spring Grove. It is, however, of older standing, and it is not easy to ascertain why it was not generally cultivated before it was so noticed.

"This is certainly the best of all the known Hautboys, and where only one variety is kept, should be preferred to the others; the fruit is large, conical, shorter and more obtuse than in the preceding, the colour of it is dark, a very abundant bearer, and it usually produces a partial second crop, blossoming in August and September, and the fruit ripening in October."

We received this kind from London several years ago, and sell the plants at 50 cents per dozen. To the foregoing account, it would be deemed advisable to add the following method practised and recommended by *T. A. Knight*, the president of the London Horticultural Society, whose authority and experience in Horticultural affairs is well known and appreciated; which I copy from my son James's manuscripts. "He (Mr. Knight) places the Downton, Hautbois, and Pines, in rows 16 inches distant from each other, and eight inches between the plants, and finds them equally as productive, as when placed wider; but his beds have to be renewed annually, which he thinks is not so much trouble as properly managing old beds."

"Mr Keene (the celebrated Fruit grower for the London Market at Isleworths,) recommends for the above varieties, rows two feet wide, and the plants eighteen inches apart, and suffers his beds to remain three years." This I suppose to be much in the same method as first mentioned; from these authorities we have no doubt the newest, and best method of cultivating strawberries that is known, and the best sorts. It may be necessary to mention that advantage ought to be taken of a shower of rain in the planting, particularly at this season, July or August; the ground should be got ready but not planted until after it had received a good wetting, else the dry weather would be apt to kill the plants.

With much respect, I am Sir, your obedient Servant, MICHAEL FLOY.

Horticultural Establishment, Broadway, near 12th street, New-York, Nov. 25, 1829.

ART. 167.—*Notice of the Medical Dictionary of* ROBERT HOOPER, *edited by* SAMUEL AKERLY.

[For the New-York Farmer.]

Since Medicine has so far enlarged its boundaries as to have grown to be both an art and a science, there has been found to be great usefulness in compiling Lexicons for rendering its terms, definitions, and principles, plain and obvious, particularly to students and beginners, though it was very desirable that they should be composed in such a manner as to serve as books of reference, and even of instruction to proficients.

When the learned CASTELLI offered to the public his Medical Dictionary, there were two difficulties in the way of its distribution to such an extent as might have been wished. The one was, that it was written in Latin, and the other, that it was a costly quarto volume. QUINCY's Lexicon, being written in English, and prepared in the octavo form, had a much wider circulation, at least among the British and Fredish people. Dr. JAMES's enormous work, in three huge folios, was enough to discourage both readers and purchasers; and appears not to have been much in vogue.

In the progress of discovery and improvement in Physic itself, and the auxiliary sciences, it seems the new edition of Quincy's book, though enriched by many additions, did not quite keep even pace with the march of knowledge. And it appeared to the author of the present performance that the task should be undertaken anew, and with such enlargement and variety as to embrace the modern facts and doctrines.

He has achieved a work so popular, that it has passed through numerous editions in London, and has been so well received in this country, that the fourth American edition is already offered to the profession, and is rapidly selling off. It is agreeable to know the success of the undertaking. It is highly creditable to the publishers, the Messrs. Harpers, who, with the skill and enterprise for which they are distinguished, have caused the text to be stereotyped, that the edition may be correct and immaculate. It is extended to two volumes, octavo; the first, comprising all the articles from the letter A to J, inclusive, in 472 pages; and the second reaching from K to Z, inclusive, amounting to upwards of 400 pages.

It is to be understood, however, that the American editor, Samuel Akerly, M. D. has added about

one hundred pages of matter, not contained in the original, and which he has judiciously selected from the best authorities.

The original work treats of anatomy, botany, chemistry, materia medica, obstetrics, mineralogy, pharmacy, physiology, practice of physic, surgery, and the various branches of Natural Philosophy, connected with medicine; including a good portion of medical biography. All these subjects are selected, arranged and methodized, from the most approved sources.

The New-York Editor has drawn materials from the publications of several Americans: such as the medical biography of James Thatcher, the chemical manual of John W. Webster, the materia medica of Jacob Bigelow, the mineralogy of Parker Cleaveland, the Geology of Amos Eaton, and the Medical Repository of Mitchill, Smith, and Miller. Under the heads of absorption, sugar maple, acetic acid, and actinolite, adipocere, American columbo, centaury, and hellebore; anthracite, antiseptic, aposepedine, arragonite, and arsenic, the reader will find specimens of the editor's skill in composing and selecting articles.

Notices of eminent physicians will be seen under the titles, Archer, Bard, Clossy, Bayley, Middleton, Miller, Smith, Rush, Osborn, Jones, Fuller, Bowen, Boylston, and others. From these, the reader may form an idea of the materials of this class which the editor has caused to be inserted.

It may be pronounced, without hesitation or flattery, that the work, which was justly esteemed before, is substantially more valuable now. Besides the evidence it contains of the enterprise of the publishers, and the talent of the editor, it promises eminently to promote the acquisition of professional knowledge. S. L. M.

Remarks by the Editor. The above work may be considered as containing a succinct account of mineralogy, geology and botany—affording the agricultural reader much valuable information on these important sciences. The multiplicity of subjects which it embraces, renders it a very convenient and useful book for families.

ART. 168. *Miscellaneous Extracts from Foreign Publications.*

Persea gratissima; Laurineæ.—"The Avocado, or, as it is often called, Alligator Pear, is one of the most esteemed fruits of the West Indies. In this country it is only cultivated in the stove, of which it is one of the rarest species. Sir Hans Sloane thus speaks of the Avocado:—"This tree grows commonly to the size of our largest apple trees in Europe, and spreads pretty wide at the top. The branches are very succulent and soft, the leaves oblong and veiny, and the fruit of the form of a pear; but the pulp is covered with a tough skinny coat, and contains a large rugged seed, which is wrapped up in one or two thin membraneous covers. The fruit of this tree is one of those that are held in the greatest esteem amongst all sorts of people in these colonies. The pulp is of a pretty firm consistence, and has a delicate rich flavor: it gains upon the palates of most people, and becomes soon agreeable, even to those who cannot like it at first; but it is so rich and mild, that most people make use of some spice or pungent substance to give it a poignancy; and, for this purpose, some make use of wine, some of sugar, and some of lime juice, but most of pepper and salt. Most sorts of creatures are observed to feed on this fruit with pleasure; and it seems equally agreeable to the horse, the cow, the dog, and the cat, as well as to all sorts of birds, and, when plenty, makes a great part of the delicacies of the negroes. The tree requires some care, a rich soil, and a warm situation, to raise it to perfection. It was first introduced from the Continent in 1739. *Bot Reg.*

Pistacia Lentiscus.—The lentisc, or mastic tree, is a native of the south of Europe, and is very common in the Island of Scios, where its resin, called mastic, is chiefly obtained. The tree is there cultivated, and attains the height of 12 ft. The mastic is obtained by making transverse incisions in the back about the beginning of August, from which the resin exudes in drops, and hardening on the trees, or running down and concreting on the ground, is thence collected for use. In Turkey, mastic is chewed for sweetening the breath, and strengthening the gums, whence the name. With us it is principally used by varnish-makers, and sometimes also as an astringent and diuretic *Med. Bot.*

The Stachys palustris, as an Esculent Vegetable. The Society of Arts have lately voted the silver Ceres medal to Joseph Houlton, Esq. F. L. S. &c. Lecturer on Botany at the Western Hospital, and one of the Editors of the *London Medical and Surgical Journal*, for the introduction to public notice of this plant. "The Stachys palustris, or Marsh All-heal, is a plant not unfrequently occurring on the sides of ditches, or of moist rich corn fields; it increases rapidly by creeping roots, and forms on these, during the summer, a number of thick, half-tuberous buds, from which the stems of the next year are to arise. From the end of Autumn to the close of winter, these tuberous buds abound in a mild, somewhat

sweetish, farinaceous matter, and are then fit for domestic use, being crisp, without fibre, and of a peculiar but scarcely perceptible flavour. The plant and roots are figured in Curtis's *Flora Londinensis*, but Mr. Houlton has the credit of having first suggested its use as an esculent vegetable, and of having made some experiments on the best way of cultivating it. In one respect the subject is interesting to the philosophical botanist, as offering, perhaps, the only known instance of a plant belonging to the natural order of the Labiatæ, producing farinaceous tubers, capable of being applied to human food. In general, the only use derived from plants of this order is as condiments, like sage, mint, thyme, &c.; or as affording essential oil, like origanum, rosemary, peppermint and lavender."—(*Pref. to Trans. of the Soc. of Arts, Manufactures, and Commerce*, vol. xlvi. 8vo. 1818.)

The Stalks and roots of the common Comfrey. (Symphytum officinale) are very farinaceous; the stalks have been blanched and eaten like those of Angelica, and we have no doubt of the tuberculated roots being at least as good as those of the Stachys palustris. The shoots of Symphytum asperimum, as we have seen (p. 442.) are greedily eaten by cows. There are very few plants, indeed, that are poisonous, and there can be no doubt that a great many, by culture, might be increased in the whole, or in certain of their parts, so as to be worth cultivating as esculents. It is good to know every thing that can be done in this way, and Mr. Houlton has been very deservedly honored for his exertions. [*Gar. Mag.*

Botany among the common people in the neighborhood of Paris.—There are at Paris three courses of *Botanique rurale*, that is, three botanists make weekly excursions with a number of pupils. Jussieu is the public professor of this branch, and his high reputation induced me to wish to join the party. There is no difficulty in it; the lecture is perfectly open, and no introduction is necessary. On Wednesday, 29th of May, I repaired to the appointed place (of which public notice is always given,) at the entrance of the avenue of St. Cloud. I was told that the class sometimes amounted to two hundred: on this occasion there were, I suppose, half that number; but it is difficult to judge, as a large portion is always scattered about. It was quite a novelty to botanise in such a crowd, and a very amusing novelty. The party seemed to be taken from all classes: among them were several ladies, and many who had the appearance of gentlemen; but the larger portion, I apprehend, were students in the school of Medicine at Paris, and these are, in a great measure, derived from a lower class in society than that which peoples the English, or even the Scotch universities. No person can exercise the trade of an apothecary without a certificate of having attended certain courses of botany. Some were evidently mechanics, and one or two private soldiers. It has, I understand, always been the case in France, that among the private soldiers, there have been some who have attended the different courses. How honorable this is to the French character, and how much more favorable to morals than where the only resource for an idle hour is the alehouse! Nor should I be satisfied with the observation, that they would be better employed in working for their families. Man has a right, occasionally, to relaxation, and to some exciting amusement; nor do I believe that either his moral or physical health can be well preserved without it. In England, a gentleman or lady would not choose to be seen in such an assembly of all classes; why is it that our pride will not permit us to enjoy, without excluding our inferiors? In fact, with all our boast of superior religion and superior charity, there are more of contempt in our manners towards the lower classes, and less of kindness, than in, I believe, any other nation of Europe. It may be merely in manner, and may regard only trifles: but nine-tenths of human life is made up of trifles; I am more indebted to him who will make me happy in them, than to him who would relieve me in the other tenth of serious misfortune.—(*Wood's Letters of an Architect*, vol. i.)

The cultivation of Maize, is likely to become general in France. At the sitting of the Academy of Sciences in Paris, on the 31st ult., it was proposed to give a prize of 1500 francs value to the author of the best essay on the cultivation of Indian corn in the four departments surrounding Paris, with a view to render this grain useful for the nourishment of the human species. Hitherto it has been grown chiefly in the south of France, as food for cattle and fowls. It is a singular fact, that fowls, fed exclusively upon this food, have a yellow appearance. (*Lit. Gaz.* April 11, 1829.)

Accommodations of Public Houses.—Every thing that creates an allusion to home, ought to be encouraged at an inn; and, therefore, every place of entertainment, from the smallest hedge-ale house upwards, ought to have a large garden, a library, more or less extensive, a book of country maps, a road-book, a Shakspeare, a Don Juan (purified copies, of course,) a newspaper, and one periodical or more. In many parts of Germany, the commonest public houses have piano fortes, because there all are musicians and dancers.—*Gar. Mag.*

Raising Melons from Cuttings.—But what struck us above every thing under Mr. Harrison's management was his abundant crops of melons, all growing on plants raised from cuttings. We have already described this practice (Vol. II. p. 415,) as adopted by Mr. Harrison, for the purpose of obtaining a second crop; but as he has here adopted it for almost the whole of his main crops, we shall give an outline of his present practice, subject, if we should err, to his correction in a future number. In the beginning of the season, one hill of seedlings is planted of each of the sorts it is intended to cultivate during the summer, and from these seedlings, plants, or their offspring, cuttings are taken for all the crops. A one-light frame is set apart expressly for striking the cuttings, and in it a stock of rooted plants, but never of more than three or four days' growth, are kept all the summer. A bed or pit being ready to plant, rooted cuttings are chosen, on which fruit blossoms have already appeared, and these are distributed over the beds at distances so as to allow one, or from that to two square yards of surface to each plant, according to the size of the leaves and the mode of growth. In five or six days after planting, if the cuttings have been taken at the right time, that is, newly rooted, and with the fruit blossom just beginning to expand, the fruit will be as large as hen's eggs; in three weeks the greater part will be full grown; in five weeks some of the plants will have furnished three or four ripe fruit, and will be ready to be pulled up and replaced by others; and thus, in an extensive pit or set of frames, every two or three days during the summer, the process of taking up and replanting will take place. It must be evident, to every practical gardener, that no such rapid and certain mode of having an abundant crop of fruit has hitherto been practised. For our parts, we were quite astonished to see so many fruit with so small a proportion of leaves and vines, and to find fruit in every part of every sash of above a hundred sashes. The plants are watered with the drainings of the melon ground, which are led to a well in which they are concentrated by evaporation and fermented. If the liquor is not sufficiently strong, there is a heap of recent sheep's dung ready to add to it. Mr. Harrison prefers that it should ferment some time before using, which is in unison with the practice of the German and Dutch gardeners and farmers, who never use the contents of their urinariums till they have fermented for five weeks, (p. 548.) All Mr. Harrison's crops of cucumbers, after the first crop, are raised and perpetuated in a similar manner from cuttings, and, as may easily be conceived, the advantages are proportionably great.

J, C.

ART. 170.—*Agricultural Reports—Extract of a Letter from* Dr. S. Reynolds, *to the Editor, dated Florida, Nov.* 24, 1829.

Dear Sir,—Yours of Nov. 4th, has been received. I am pleased to hear, that Mr. Buel proposes to furnish for publication, in the New-York Farmer, a quarterly report of the state, progress, &c. of Agriculture and Horticulture in this State. You may assure him I will cheerfully aid his undertaking to the utmost of my power.

In addition to the above proposal, I would respectively observe, that, in my opinion, the usefulness of the New-York Farmer might be greatly enlarged by inviting all the farmers in the State to contribute whatever experience may have dictated upon the subject of their profession, for it is upon the solid basis of facts, that a just system of husbandry can ever be erected. And there are yet many things where "*Doctors disagree*," where farmers of skill think and practice differently. Suppose they should be requested to furnish answers to questions like the following:

All things considered, is it best for our farmers to plough their land with Horses, or Oxen?

Is it good farming to keep any land exclusively for Grass?

If any land is kept in Grass, which is the most profitable way of stocking it—with cattle, or sheep?

What is the cheapest and most economical mode of fattening sheep, swine, and poultry?

How much land should farmers cultivate for a Garden? and should it be enclosed so as to exclude the hens?

What insects are troublesome upon the farm, or garden? and what methods have you tried to prevent their depredations, and with what success?

Many other questions might be proposed, which I should hope would awaken a spirit of inquiry and experiment that would lead to some valuable results. Farmers like other men, deal upon the principle of "*value for value*," and will never fail to patronize your paper, while it contains useful instruction and rational entertainment. New-York may be the focus of information, but can never be expected to be the theatre for the exercise of Agriculture—even the City Horticulture, in many respects, should be different from that of the country.

I am, most sincerely, Yours, &c.

S. Reynolds.

To Mr. Fleet.

Remarks.—The plan suggested by Mr. Buel, is to have quarterly or tri-annual reports of the state and progress of Agriculture and Horticulture from each county of this state, furnished by some individual residing in the county. It is intended that these

reports shall embrace, from time to time, every species of information, calculated to be useful to the present or succeeding generations, an outline, however, of the objects intended to be embraced, we are expecting from Mr. Buel.

If farmers were as free to communicate as Dr. S. suggests they should be, our ability to make our paper interesting and useful would be increased in a tenfold degree. We could then *select* from among original communications: but now we are obliged to insert all, or nearly all we receive. We would embrace this opportunity to request all those who wish to do some good in the world before they die to communicate facts coming under their cognizance, and to suggest plans for improving the agricultural interest of the nation which their ingenuity may devise.

NEW-YORK, NOV. 30, 1829.

Oranges from Florida, of large size, have been selling in this city, during the present month from twenty to twenty-five cents per dozen.

Pruning Shears, having all the appearance of a superior quality, are manufactured at the State Prison in Connecticut One of the blades has an oblong hole in which the rivet moves as the shears open and shut. By this simple contrivance the cutting power is greatly increased. The handles are like common shears, or with a socket in one handle and hole for a string in the other. Made in this last way, they can be fixed on a pole of any length, and thus the higher branches can be pruned by standing on the ground. They can be seen at 183 Front-street.

Agricultural Fair in New-York.—The American Institute contemplate holding an Agricultural Fair in May next, at Castle Garden in this city. It will be well patronized we have no doubt, and be attended with many benefits to the agricultural interest of this section of our country.

Pears and Potatoes at the Hall of the Massachusetts Horticultural Society.—Among the numerous kinds of excellent fruit exhibited at the Hall of this patriotic society, we notice, (as published in the N. E. Farmer,) a specimen of the Sylvange Veste sent by J. Lowell, who considers it as having no superior in this country. The chief excellencies are, ts enormous size, its beauty, its extreme productiveness and its duration.

From Mr. S. Downer, specimens of the "Lewis Pears," (of Roxbury) a seedling. The sizeis a little, under medium—"flesh whitish, and fine grained, melting, buttery and juicy, not so high flavored as many pears, but very pleasant, and will be a popular eating fruit with people generally. It is sought after by our market men, and is selling for six and seven dollars per bushel."

Specimens of a remarkably productive potatoe, received by C. Tappan, last season from Havre, in France, of a good quality, and so productive, that *four hills have afforded a bushel*, upon an average, planted in the usual manner, three half potatoes to a hill.

Oyster Trees. The civil or sour orange tree abounds on the island of Jakyl, situated in the mouth of the Alatamaha river, in Georgia. The lower branches being submerged in the waters of the river at times when it is high, thousands of oysters attach themselves to them, and thus, when the tide falls, present the curious phenomenon of that testaceous fish growing on them, as part of the fruit of the orange tree. What adds to the singularity of the appearance, says the Mississippi Statesman and Gazette, is the fact, that the upright branches of the tree are frequently found abounding in the natural fruit, while the lower ones present strange looking clusters of their marine adoption.

An account of a similar phenomenon is given in the subjoined passage from a work, entitled, "A Voyage to South America in 1823."

"On a branch of the main river at Tomboz, in Peru, a singular appearance is presented by the oysters which line its banks. The reader has heard of that extraordinary tree in Nummington, so large that a coach and horses can be driven with ease through its hollow trunk!—of that wide-spreading oak at Nismes, said to cover an acre of ground! as also of the far-famed Indian Upas, so baneful in its effects that instant death would attend the temerity of that traveller who should approach within five miles of it, and whose vicinage is covered with the dead bodies of the animals, reptiles and insects which have ventured within the sphere of its contagious influence! But has he ever heard of the oyster tree?—a tree on which *oysters* were the fruit? Nay, start not, gentle reader. This branch of the main river that I have been speaking of, is so lined with trees and underwood as almost to exclude the rays of the sun. The branches of these trees, like the weeping willow, grow downwards: at high water, the tide rising and falling six or seven feet every twelve hours, and overwhelming the low lands, these branches become partly immersed. Thousands of oysters attach themselves to them, and at low tide they are seen suspended several feet above water, and present a curious spectacle. We plucked two boat loads of this species of marine fruit, which, though small, nearly equalled those of the Chesapeake."